

## SEMESTER-II

### DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS SCIENCES

#### **B.SC.(HONS.) IN PHYSICAL EDUCATION, HEALTH EDUCATION AND SPORTS**

#### **BSC-PE-DSC-4(4): HEALTH EDUCATION**

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
<b>BSc-PE-DSC-4(4): HEALTH EDUCATION</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>Class XII pass</b>	<b>Nil</b>

**Learning Objective:-**The learner will acquire knowledge and understanding with applications and skills (field and laboratory) in health education in real-life situations.

**Learning Outcome:-** At the end of the course students will be able to:

- Understand the concepts of health and related terminologies.
- Acquire knowledge about communicable and non-communicable diseases.
- Differentiate between communicable and non-communicable diseases.
- Understand the effect of substance abuse and its management
- Acquired knowledge of first aid, CPR, and first aid for, bleeding, fractures, sprain and strain (PRICER), drowning, snakebite, poisoning, heat stroke, and heat exhaustion.
- Acquire knowledge about international health agencies- WHO, UNICEF, RED CROSS- their constitution and role in promoting health.

### **THEORY SYLLABUS (45 HOURS)**

#### **UNIT I (11 HOURS)**

- (i) Health-Meaning, Dimensions of Health And Their Interrelationships, The Importance of Health For Individual, Family, CommUNITY, And Nation; Factors Influencing Health, The Spectrum Of Health
- (ii) Health Education- Meaning, Scope, Aims And Objectives, Principles, Methods And Media Used In Health Education.
- (iii) Personal Hygiene, Food Hygiene, Environmental Hygiene Meaning, Need And Importance; Associated Practices Related To Maintenance And Promotion Of Health

#### **UNIT -II (11 HOURS)**

- i. Communicable And Non – Communicable Diseases-Distinction Between Communicable And Non-Communicable Diseases.

- ii. Communicable Diseases-Definition, Mode Of Spread And Prevention,
- iii. Non-Communicable Diseases--Meaning, Causes, And Preventive Measures

### **UNIT-III (11 HOURS)**

- (i) Contemporary Health Problems of College Youth
- (ii) Substance Abuse Management-Alcohol, Drugs, Tobacco (Chewing, Sniffing, Smoking)-Their Harmful Effects
- (iii) Population Education Importance Of Small Families, Methods Of Controlling Conception
- (iv) Care Of The Infant, The Importance Of Breastfeeding, Immunization, Oral Rehydration Therapy (ORS)

### **UNIT-IV (12 HOURS)**

- (i) Definition Of First Aid, DRABCH Of First Aid, CPR, First Aid For, Hemorrhage, Fractures, Sprain And Strain (PRICER), Drowning, Snakebite, Poisoning, Heat Stroke, And Heat Exhaustion.
- (ii) International Health Agencies- WHO, UNICEF, Red Cross- Their Constitution And Role In Promoting Health.

### **SUGGESTED READINGS-**

1. Anspaugh DJ Ezell Gand Goodman KN (2006). Teaching Today's Health. Mosby Publishers.Chicago.USA.
2. Balayan D (2007).Swasthya Shiksha Evam Prathmik Chikitsa. Khel Sahitya.Delhi.
3. Chopra D and D Simon (2001). Grow Younger, Live Longer: 10 Steps to Reverse Aging. Three Rivers Press. New York. USA.
4. Dewan A P (1996).School Health Manual. Nature Cure and Yoga Health Centre. New Delhi.
5. Dixit Suresh(2006). Swasthya Shiksha. Sports Publication. Delhi.
6. Donatelle R J (2005).Health the Basics. Sixth Edition.Oregon State University.
7. FloydPASEMimmsandCYeilding(2003).PersonalHealth:Perspectivesand Lifestyles.ThomsonWadsWorth.Belmont.California.USA.
8. HalesD(2005).AnInvitationtoHealth.Thomson-Wadsworth,Belmont.California.USA.
9. Park K (2017).Park's Text Book of Preventive & Social Medicine. Banarsi Das Bhanot & Company. Delhi.
10. Snehlata(2006).Shareer,VigyanEvamSwasthyaRaksha.DiscoveryPub.Houses.New Delhi.
11. Uppal A K & Gautam G P (2008). Health & Physical Education. Friends Publication. New Delhi.

**Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.**

## SEMESTER II

### BSc-PE-DSC-5(4): EXERCISE PHYSIOLOGY

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
BSc-PE-DSC-5(4): EXERCISE PHYSIOLOGY	4	3	0	1	Class XII pass	NIL

**Learning Objective:-**The learner will acquire knowledge and understanding with applications and skills (field and laboratory) in exercise physiology.

**Learning Outcomes:** By the end of the course, students will be able to:

1. Understand the concepts of Exercise Physiology and its significance in Physical Education and Sports.
2. Acquire knowledge about skeletal muscle's gross and microscopic structure, fiber types, acute response, chronic adaptation, and the muscular system.
3. Gain an overview of energy metabolism, including fuels for exercise, exercise duration, and fuel utilization.
4. Differentiate between aerobic and anaerobic systems.
5. Understand cardiovascular function during exercise and training.
6. Assess the various physiological parameters during rest and exercise.

#### **THEORY SYLLABUS (45 Hours)**

##### **UNIT 1: Fundamentals and Neuromuscular Function (10 HOURS)**

- i.Exercise Physiology: Definition, Concept & its Significance in the Field of Physical Education & Sports
- ii.Meaning of Acute Physiological Response and Chronic Physiological Adaptations
- iii.Skeletal Muscles: Gross & Microscopic Structure of Skeletal Muscle, Sliding Filament Theory, Muscle fiber types, Acute Response & Chronic Adaptation and the muscular system.

##### **UNIT 2: Energy & Hormonal Regulation (10 HOURS)**

- i.Overview of Energy Metabolism-Fuels of exercise, Exercise Duration and Fuel utilization
- ii.Energy Systems- Aerobic & Anaerobic Systems
- iii.Endocrine Glands: Hormones secreted, actions, target organ/system, and Exercise and Training Response.

### **UNIT3: Cardio-respiratory System and Training Adaptations (16 HOURS)**

- i. Cardiovascular Function during Exercise and Training: Structure & Function of the Heart, Cardiovascular Response to Exercise and Chronic Adaptations, Athlete's heart.
- ii. Respiratory Function during Exercise and Training: Respiratory Parameters, Oxygen Debt, Second Wind, Acute Response and Chronic Adaptation.

### **UNIT4: Exercise and the Environment (09 HOURS)**

- i. High Altitude – Physiological Response, Exercise responses, and training adaptations.
- ii. Hot and Cold Environment: Physiological Responses, Exercise Response, Heat & Cold Disorders.

### **PRACTICAL SYLLABUS (30 HOURS)**

1. Assessment Of Resting Heart Rate
2. Assessment Of Resting Blood Pressure
3. To Measure Vital Capacity Using Spiro-Meter
4. Assessment Of Heart Rate After Exercise
5. Administering The Harvard Step Test

### **SUGGESTED READINGS:**

1. Camaione, David N.(1993).Fitness Management. WCB Brown & Benchmark.
2. Jakson,AllenWandJamesR.Morrow(1999)PhysicalActivityforHealth&fitness.HumanKineticsPublication.
3. Katch F. Land McArdle W.D(2010) Nutrition, Weight Control and Exercise. Philadelphia, Lea & Febiger.
4. Tiwari,Sandhya,(1999).ExercisePhysiology.SportsPublications,NewDelhi.
5. WilmoreJack.HandDavidL.Costill(1994).PhysiologyofSportandExercise. Human Kinetics.
6. G.GregoryHalf.(2012).LaboratoryManualforExercisePhysiology.USA.HumanKinetics.
7. W.LarryKenney,JackH.Wilmore,DevidL.Costil.(2015).PhysiologyofSportsandExercise,SecondEdition.USA.HumanKinetics.
8. Christophe. Hausswirth, Inigo Mujika.(2013).Recovery for Performance in Sports, USA, Human Kinetics.
9. InigoMujika.(2009).TaperingandPeakingForOptimalPerformance.USA.HumanKinetics.
10. PerOlf.Astrand,Kaare.Rodahl.(2003).TextBookofWorkPhysiology:Physiological Basis of Exercise. Fourth Edition. USA. Human Kinetics.
11. Jonathan K.Ehrman, Dennis Kerrigan,et.al.(2017). Advanced Exercise Physiology: Essential Concepts and Applications.USA. Human Kinetics.

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## SEMESTER II

### BSc-PE-DSC-6 (4): FUNDAMENTALS OF GAME 2

(Choose any one Game as per the list that hasn't been chosen in Sem I & as per availability of the facilities) \*

\* (i) Athletics (ii) Badminton (iii) Basketball, (iv) Cricket (v) Football (vi) Gymnastic (vii) Handball (viii) Hockey  
(ix) Judo (x) Kabaddi (xi) Kho-Kho (xii) Volleyball (xiii) Yoga (xiv) Swimming (xv) Wrestling (xvi) Table Tennis

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
BSc-PE-DSC-6(4): FUNDAMENTALS OF GAME 2	4	2	0	2	Class XII pass	Nil

**Learning Objective:-**The students will acquire knowledge and understanding of a specific sport in which an individual wishes to excel.

**Learning Outcome:-**The student will attain knowledge, understanding, interpreting and analyzing proficiency in a game of one's choice.

#### THEORY SYLLABUS (30 Hours)

##### UNIT-I (08 Hours)

- Historical Development and Modern Trends in the game (National and International Level)
- Organizational Structure (State, National, and International Level)
- Introduction to Playfield/arena of the game/ athletic Track & field events/ Yogic arena

##### UNIT-II (08 Hours)

- Rules and their interpretation of the chosen sports/ Track & field events/ Yogic Asanas
- Basis of Warming up and cooling down and its effect
- Role of coach in preparing players/Teams

##### UNIT-III (07 Hours)

- Basic skills and techniques of the chosen Game/ Yogic Asanas/Athletic Events (short, middle and long-distance races, hurdles races, jumping events-long jump & High Jump, throwing events-shot-put, discus & Javelin)

- Developmental Drills / Preparatory Exercises to improve skills of the Game/event/Asanas

##### UNIT-IV (07 Hours)

- Introduction to Fitness components related to sports / athletic events/yoga
- Role of Fitness & skill related fitness components of the chosen game in improving performance

#### PRACTICAL SYLLABUS (60 Hours)

4. Learning and demonstrating various skills/techniques of the chosen Game

5. Drills to improve Fundamental skills of the chosen game (for athletics/ Gymnastics any three events)
6. Marking of Playfield/ arena of chosen game (for athletics / Gymnastics any three events)

**SUGGESTED READINGS:**

- Gothi E(2004).Teaching & Coaching Athletics .Sport Pub, New Delhi.
- Gupta R.(2004).Layout & Marking of Track & Field. Friends Publications. India. New Delhi.
- Handbook-RulesandRegulation.InternationalAthleticFederation(2010).
- HerbAmato, DAAT Cetal (2002).Practical Exam Preparation Guide of Clinical Skills of Athletic Training. Slack Incorporated.1<sup>st</sup>ed.,USA.
- Kumar,Pardeep.(2008).HistoricalDevelopmentofTrack&Field.FriendsPublication.NewDelhi
- Maughan,R. and Gluson, M.(2004).The Biomechanical Basics of Athletic Performance. Oxford University Press,U.K.
- Renwick GR(2001).Play Better Athletics. Sports Pub, Delhi.
- Singh, Hardayal.(2019).Science of Sports Training.DVS Publication, N.Delhi.
- VanaikA.(2017).OfficiatingandCoaching,FriendsPublication.NewDelhi.
- Elliott R., (2011). Runners on Running: The Best Nonfiction of Distance Running, Human Kinetics, United States of America.
- Galloway J., (2011). Cross Country Running, Mayer &Mayer Sport, United Kingdom.
- Galloway J., (2012). 100 Reasons to Run, Mayer &Mayer Sport, United Kingdom.
- Thani L., (2018). Skills & tactics field athletics, sports publication, New Delhi
- Singh, Hardayal.(2019).Science of Sports Training. D V S Publication, N.Delhi.
- Vanaik A.(2017).Officiating and Coaching, Friends Publication. New Delhi

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